



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,769	12/16/2003	Koichi Kawamura	Q79007	3973
23373	7590	04/26/2007	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			CHACKO DAVIS, DABORAH	
		ART UNIT	PAPER NUMBER	1756
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	04/26/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/735,769	KAWAMURA ET AL.	
	Examiner	Art Unit	
	Daborah Chacko-Davis	1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 24 January 2007.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-23 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-23, are rejected under 35 U.S.C. 102(e) as being anticipate by U. S. Patent No. 6,919,158 (Kawamura et al).

Kawamura, in col 5, lines 15-67, in col 6, lines 1-12, in col 7, lines 1-28, in col 17, lines 65-67, in col 18, lines 1-27, and lines 31-60, discloses a method of forming a pattern by exposing a hydrophilic compound formed on a support to radiation so as to form a hydrophilic/hydrophobic pattern that includes regions formed on the support with graft polymers, and regions with no graft polymers; applying a layer of material on the support with the hydrophilic/hydrophobic regions. Kawamura, in col 23, lines 61-67, in col 24, lines 1-35, in col 25, lines 56-67, in col 26, lines 1-10, in col 29, lines 55-67, in col 35, lines 1-26, discloses that the support surface is exposed to irradiation (e-beam, or low energy exposure, image-wise fixed) so as to cause a radical to be generated on the surface of the support causing the surface of the substrate to manifest polymerization initiating ability, a polymerization initiator containing composition is applied on the support to initiate polymerization on the support surface, at active sites,

after which a monomer containing functional group (graft polymer, of positive or negative charge) is made to contact the surface of the support (support having polymerization capability) and undergoing radical polymerization on the support in the presence of a transition metal catalyst (iron salt complex, i.e., atom transfer radical polymerization, ATRP) to form corresponding hydrophilic/hydrophobic pattern (depending on the polarity of the graft polymer) (claims 1-2, 4, 8, 11, 14-15, 18, 21).

Kawamura, in col 18, lines 31-65, discloses that the substance added to the support is a colorant, and or a dye and can be conductive (charge-containing, a polar group), said substance is formed of fine particles (claims 3, 5-7, 9-10, 12, 16-17, 19-20, and 22).

Kawamura, in col 19, lines 1-51, discloses that the substance can be a conductive polymer comprised of absorbing material (claims 13, and 23).

Response to Arguments

3. Applicant's arguments filed January 24, 2007, have been fully considered but they are not persuasive. The 102 (e) rejection made in the previous office action (paper no. 20060920) is maintained.

A) Applicants argue that Kawamura does not disclose "an atom transfer radical polymerization in the presence of a transition metal complex as a catalyst."

Kawamura, in col 24, lines 5-8, discloses a region (the surface of the substrate) being exposed to energy (e-beam, plasma etc.) and causing the generation of a radical (initiator) on the surface of the substrate such that the radical is fixed on the surface (due to exposure), and the substrate surface manifests polymerization initiating ability.

Kawamura, in col 35, lines 1-20, discloses that the radical polymerization is conducted in the presence of a transition metal complex (iron salt complex).

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daborah Chacko-Davis whose telephone number is (571) 272-1380. The examiner can normally be reached on M-F 9:30 - 6:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark F Huff can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published

Art Unit: 1756

applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dcd

April 16, 2007.



MARK F. HUFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700